

SCBOLEV, Petr Alekseyevich

On the Question about the Application of (Rentgenovskogo) Investigation of
the Female Pelvis in Obstetrical Practice.

Dissertation for candidate of a Medical Science degree. Yaroslav Medical
Institute, 1954.

SOEOLEV, P.A., kandidat meditsinskikh nauk.

A simple method for measuring the inclination of the female pelvis. Akush. i gin. no.6:57-58 N-D '55 (MIRA 9:6)

1. Iz kafedry akusherstva i ginekologii (zav.-dotsent Ye.K. Aleksandrov) Yaroslavskogo meditsinskogo instituta.
(PELVIMETRY
modified Martin's method)

SOROLEV, P.A., kand.med.nauk

A device insuring the correct posture of the patient for X-ray
examinations of the female pelvis. Akush. i gin. 33 no.6:81-83
N-D '57. (MIRA 11:3)

1. Iz Yaroslavskogo meditsinskogo instituta (dir.prof. N.Ye.
Yarygin) i Kostromskoy oblastnoy bol'nitsy (glavnnyy vrach-
zaskuzhennyy vrach RSFSR M.V.Shchekunov)
(PELVIMETRY, appar. and instruments
device for determ. of correct position in x-ray pelvometry)

SOBOLEV, P.A.; ANAN'INA, N.P.

Protective net from metal fragments and from radiant energy. Gig. sanit.,
Moskva no. 3:58-59 Mar 1953. (CLML 24:3)

1. Of Sverdlovsk Institute for the Protection of Labor VTsSPS.

SOBOLEV, P.A.; BARYSHNIKOVA, Ye.N.

Special clothing for workers at aluminum electrolysis tanks. Gig.i san. no.
8:53 Ag '53. (MLRA 6:9)

1. Sverdlovskiy institut okhrany truda Vsesoyuznogo tsentral'nogo soveta
profs soyuzov. (Clothing, Protective)

VADASH, Y.F. [Vabash, I.F.]; SOBOLEV, P.A. [Soboliev, P.A.]

Simplified design and calculation of magnetic apparatus for water treatment reagents. Leh.prom. no.3:32-34 Jl-S '63. (MIRA 16:11)

1. Chernovitskiy tekstil'nyy kombinat.

SOV/137-59-3-5527

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 84 (USSR)

AUTHORS: Diyev, N. P., Kusakin, P. S., Paduchev, V. V., Sobolev, P. A.,
Perestoronin, A. A.

TITLE: Phase Content of Cobalt-nickel Mattes
(Fazovyy sostav kobal'to-nikelevykh shteynov)

PERIODICAL: Tr. In-ta metallurgii. Ural'skiy fil. AN SSSR, 1958, Nr 2, pp
181-186

ABSTRACT: The authors studied the phase content of industrial Co mattes by the following methods: 1) Mineralogical-petrographic investigations; 2) gravitational [sink-float] separation in water, heavy liquids, suspensions, etc.; 3) air-separation; 4) flotation; 5) smelting out; and 6) classification according to grain size. Conclusions: 1) Co does not form an independent phase in mattes but is distributed between the sulfide and metallic solid solutions and the double sulfide $2\text{FeS}\cdot\text{Ni}_3\text{S}_2$, isomorphically taking the place of Fe and Ni in the lattice nodes of the respective phases; 2) the composition of separate phase components in Co mattes fluctuates in the following range: Metallic phase 18-40% (by weight), sulfide phase 43-40%, eutectoid

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SOV/137-59-3-5527

Phase Content of Cobalt-nickel Mattes

38-20%, and slag intrusions 0-4%; 3) the metallic phase contains (in %): Ni 6.6-44, Fe 47.8-80, Co 0.85-2.6, and S 0.9-4.0. Co and Ni are concentrated mainly in the metallic phase; 4) the sulfide phase contains (in %): Ni 11.8-22.2, Fe 49-61, Co 0.7-0.9, and S 29.0-32.3; 5) the main mass of the metallic phase has a grain size of from 10 to 60 μ , a specific gravity of 7.88 and a melting point of 1370°C; 6) the specific gravity of the sulfide phase is 4.6.

N. P.

Card 2/2

DOKUCHALOV, Aleksandr Stepanovich; SOBOLEV, Petr Alekseyevich; RUDNEV,
A.P., otv.red.; STUKACHEV, V.I., dotsent, retsenzent; MISHARINA,
K.D., red.izd-va; ISLEN'TYEVA, P.G., tekhn.red.

[Safety techniques in copper smelting and nickel plants] Tekhnika
bezopasnosti na medeplavil'nykh i nikellevykh zavodakh. Moskva,
Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii,
1959. 214 p.
(MIRA 12:8)

1. Moskovskiy institut tsvetnykh metallov i zolota im. M.I.Kalinina
(for Stukachev).
(Metallurgical plants--Safety measures)

SOBOLEV, P.A., inzh.

Organizing labor in repairing equipment of metallurgical plants.
Bezop. truda v prom. 3 no.6:19-21 Je '59. (MIRA 12:10)

1. Sverdlovskiy institut okhrany truda Vsesoyuznogo tsentral'nogo
soveta profsoyuzov.
(Metallurgical plants--Equipment and supplies--Maintenance and repair)

SOBOLEV, P.F., dorozhnnyy master (Stantsiya Slavyansk, Donetskoy dorogi.)

A high title has been conferred on our collective. Put' i put.
khoz. 5 no.9:4 S :61. (MIRA 14:10)
(Railroads---Employees)

SOBOLEV, P. I., podpolkovnik med. sluzhby

Changes in the apparatus for micrometric determination of oxygen
saturation of the blood. Voen-med.zhur. no.11:64-66 N '57.
(OXYGEN, in blood,
determ. of saturation, appar. (Rus)
(MIRA 11:4)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1

GEMBITSKIY, Ye.V., kand.med.nauk; SOBOLEV, P.I.; BERLINER, G.B.

Clinical course and treatment of acute luminal poisoning. Sov.
med. 23 no.7:102-106 J1 '59. (MIRA 12:11)
(PHENOBARBITAL toxicology)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1"

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1

BERLINER, G.B.; SOBOLEV, P.I.; MOS'PANOV, L.S. (Petrozavodsk)

Intravitral diagnosis of a primary tumor of the heart. Klin.
med. 40 no.11:118-120 N°62 (MIRA 16:12)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1"

SCICHE, P. I. (Eng.)

SCICHE, P. I. (Eng.)

Packing (Mechanical Engineering)

Replacing asbestos-rubber cement with steel washers. Rech. transp. 12
No. 3, 1952.

9. Monthly List of Russian Accessions, Library of Congress, ~~August 1952~~ ~~1953~~, Uncl.

SOBOLEV, P., inzhener.

Quality of feed water filtration for steam boilers. Mor. i rech. flot 13 no.1:
(MIRA 6:10)
29 My '53.
(Feed-water purification)

SOBOLEV, PAVEL IVANOVICH

EPP
.R91597

Szhiganiye mazuta v torzakh sudovykh parovykh kotlov. Burning black oil in ships' steam boilers. Moskva, Rechnoy Transport, 1955.

156, 3 P. illus., diagrs., graphs, tables.
Bibliography: P. 158

L.
SOBOLEV, Pavel Iyanovich; MYASNIKOV, N.V., redaktor; SHIMKO, K.N.,
retsenzent; AMININ, V.G., retsenzent; VITASHKINA, S.A.,
redaktor; KRASNAYA, A.K., tekhnicheskiy redaktor.

[Combustion of mazut in furnaces of marine boilers] Szhiganie
mazuta v topkakh sudovykh parovykh kotlov. Moskva, Izd-vo
"Technicheskii transport," 156 p. (MLRA 8:12)
(Boilers, Marine) (Mazut)

SOBOLEV, Pavel Ivanovich; PENKIN, I.S., retsensent; KOMOGORTSEV, P.Ya.,
redaktor; SHLENNIKOVA, Z.V., redaktor izdatel'stva; KRASNAYA, A.K.,
tekhnicheskiy redaktor

[Servicing and repairing injectors] Obsluzhivanie i remont inzhektorov.
Izd.2-oe, ispr. i dop. Moskva, Izd-vo "Rechnoi transport," 1957.
77 p. (Injectors) (MIRA 10:7)

ANTONOVICH, Sergey Aleksandrovich, kand.tekhn.nauk; NOVIKOV, Viktor Vasil'yevich, inzh.; RENSKIY, Nikolay Mikhaylovich, inzh.; FOMKINSKIY, Leonid Ivanovich, inzh.; SHIMKO, Konstantin Nikolayevich, kand.tekhn.nauk. Prinimal uchastiye SMANTSER, A.I., inzh. AL'BANOV, V.M., inzh., nauchnyy red.; LAKHANIN, V.V., prof., doktor tekhn.nauk, retsenzent; KULIKOVSKIY, P.P., kand.tekhn.nauk, retsenzent [deceased]; STEPANYUK, Ye.I., kand.tekhn.nauk, retsenzent; PAVLOV, A.V., inzh., retsenzent; PETROV, M.D., inzh., retsenzent; ROMANOV, P.A., inzh., retsenzent; SOBOLEV, P.I., inzh., retsenzent; VITASHKINA, S.A., red.izd-va; YERMAKOVA, T.T., tekhn.red.; VOLCHOK, K.M., tekhn.red.

[Handbook for marine heat engineers] Spravochnik sudovogo teplotekhnika. Sost. S.A.Antonovich i dr. Leningrad, Izd-vo "Techno transport," Leningr. otd-nie, 1960. 679 p. (MIRA 14:3)
(Marine engineering) (Heat engineering)

SOBOLEV, P., inzh.

Causes of the burning-through of water tubes of KV boilers and
means for controlling it. Rech. transp. 20 no. 2:44-45 F '61.
(MIRA 14:2)

(Boilers, Water-tube)

Sobolev, P.N.

Quantitative relation between mineral and chemical content of granitoids. P. N. Sobolev [Moscow Univ., Dept. Petrography]. *Vestnik Moskov. Univ. 12, Ser. Biol., Pechrovo, Geol., Geograf.* No. 1, 219-27(1957).—By plotting chem. vs. mineral compn. of alkali-feldspar), leucocratic granite, biotitic porphyrous granite, biotitic granite, and adamellite (orthoclase-bearing quartz-hornblende-mica-diorite), it was shown that petrographic study gives reliable results for assigning nomenclature, classification, and diagnosis for all types of granitoids.

A. P. Kotloby

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BOGDENKO, Mariya Lukinichna; SOBOLEV, P.N., doktor istoricheskikh nauk,
ctv.red.; ZELENIN, I.Ye., red.izd-va; MARKOVICH, S.G., tekhn.red.

[Establishment of state grain farms during 1928 - 1932] Stroitel'-
stvo zernovykh sovkhozov v 1928 - 1932 gg. Moskva, Izd-vo
Akad.nauk SSSR, 1958. 250 p. (MIRA 12:7)
(State farms) (Grain)

2

Name: SOBOLEV, Petr Nikiforovich

Dissertation: The solidarity of the neediest peasants with the proletariat during the preparation for and carrying out of the Great October Socialist Revolution

Degree: Doc Historical Sci

Affiliation: [not indicated]

Defense Date, Place: 2 Jul 56, Council of Inst of History, Acad Sci
USSR

Certification Date: 23 Mar 57

Source: BMVO 14/57

SOBOLEV, P.S.

Improved method of ligation of the umbilical cord. Sov.med. 22
(MIRA 11:10)
no.7123-125 J1 '58

1. Iz rodil'nogo doma No.19 Moskvy (glavnnyy vrach - zaalyzhennyy
vrach RSFSR N.N. Filimonov, nauchnyy rukovoditel' - prof. Ye.I. Kvater).
(UMBILICAL CORD
ligation, double-stage method (Rus))

SOBOLEV, P.V., inzh.

Stabilization of earth-roadbed soils with artificial wetting
in droughty regions of Central Asia. Avt.dor. 25 no.8:16-17
Ag '62. (MIRA 16:2)
(Soviets Central Asia--Soil stabilization)

SOBOLEV, P.V., inzh.

Designing vertical curves for the longitudinal profile of railroads.
Transp. stroi. 13 no.6:52-53 Je '63. (MIRA 16:9)
(Railroads—Grades)

SOBOLEV, P.V., inzh.

Testing the compactness of saline-soil banks. Avt.dor. 26
no.9:16-17 S '63. (MIRA 16:10)

SOBOLEV, P.V.

Building temporary roads during the laying of pipelines in shifting
sands. Stroi. trukoprov. 9 no.5:29-30 My '64. (MIRA 17:9)

1. Tashgiprotrans, Tashkent.

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1

SOBOLEV, P.V., inzh.

Sources of the water supply for the artificial wetting of
soil in roadbeds. Transp. stroi. 14 no.3:7-10 Mr '64.
(MIRA 17:6)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1"

SOBOLEV, N.V., inzh.

Characteristics of road surveying in shifting sand from the
point of view of engineering geology. Transp. stroi. 14
(MIRA 18:11)
no. 5337-38 My '54.

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1

SOBOLEV, P.V., inzh.

Building high, sandy embankments with bulldozers. Avt. dor. 27
no.2:11-12 F '64. (MIRA 17:3)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1"

88433

S/056/60/039/006/022/063
B006/B056*26.2321*AUTHORS: Ioffe, M. S., Sobolev, R. I., Tel'kovskiy, V. G.,
Yushmanov, Ye. Ye.TITLE: Investigation of the Confinement of Plasma in a Trap With
Magnetic PlugsPERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 39, No. 6(12), pp. 1602 - 1611

TEXT: A report is given on plasma confinement in a cylindrical magnetic mirror which is some 10 cm in size. The experiments were carried out with a hydrogen plasma having a mean density of $\sim 1 \cdot 10^9 \text{ cm}^{-3}$, at a minimum pressure of the neutral gas of $\sim 3 \cdot 10^{-7} \text{ mm Hg}$. The mean ion energy was 1 - 2 kev, the electron energy $\sim 10 \text{ ev}$; the magnetic field was 5 - 8 koe. In this case, it is possible to reckon with adiabatic and quasineutral conditions, i.e. the Larmor radius of the ions is small compared with the trap dimensions, and the Debye screening radius is small compared with the region filled by the plasma. The greatest losses in fast ions occur as a

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Investigation of the Confinement of Plasma in S/056/60/039/006/022/063
a Trap With Magnetic Plugs B006/B056

result of charge exchange with the neutral gas. The experimental arrangement, in which the experiments were carried out, is shown in Fig.1. The maximum field in the center of the trap (constant in time), was 8000 oes, and in the plugs it was 12,400 oes, i.e. the plug ratio was 1.55. The mean lifetime τ of the fast ions in the trap was measured as a function of pressure for different accelerating voltages, magnetic fields, and plug

ratios in the hydrogen pressure range of $3 \cdot 10^{-7}$ - $2 \cdot 10^{-5}$ mm Hg. The experimentally determined $1/\tau$ -values are, as shown, indeed linear functions of pressure, as must be expected also of charge exchange processes. Also

the flux of fast neutral particles and therefore also the current of secondary electrons in the range of $2 \cdot 10^{-7}$ - $3 \cdot 10^{-6}$ mm Hg is a linear function of pressure. If pressure is reduced, the neutral-particle flux tends toward zero (and not toward a constant value). Among the processes developing in the plasma, there may also be the process $H^+ + H_2 \rightarrow H + 2H^+$,

which fact has been pointed out by G. I. Budker. However, it was found that the ion escape from the trap takes place much more quickly than would be expected, if only charge exchange and scattering processes are taken

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Investigation of the Confinement of Plasma
in a Trap With Magnetic Plugs

S/056/60/039/006/022/063
B006/B056

into account. Thus, additional losses of fast ions must be assumed, whose time dependence was investigated. It was found that the losses not connected with charge exchange decrease with time until eventually they vanish completely. Such anomalous losses of ions are due to the presence of plasma in the trap. If the density of the charged particle is so low that the Debye range is of the same order as the trap dimensions, the losses are equal to zero. The authors thank Academician L.A.Artsimovich and B. B. Kadomtsev for their interest, advice, and discussions, V. M. Petrov, E. N. Braverman, and Yu. T. Bayborodov for their technical collaboration. There are 9 figures, 2 tables, and 11 references: 7 Soviet, 1 Swiss, and 2 US.

SUBMITTED: July 20, 1960

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89202

S/056/61/040/001/007/037
B102/B204

26.2321

AUTHORS:

Ioffe, M. S., Sobolev, R. I., Tel'kovskiy, V. G.,
Yushmanov, Ye. Ye.

TITLE:

Escape of plasma from a magnetic mirror trap

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40,
no. 1, 1961, 40-48

TEXT: This paper is a continuation of an earlier paper (Ref. 1), in which the authors studied the retaining of a hydrogen plasma with a thickness of 10^9 cm^{-3} , which consisted of fast ions (1-2 kev) and slow electrons ($\sim 10 \text{ ev}$). Anomalously fast escape of ions from the magnetic mirror trap could be found, which was caused not alone by the charge-exchange losses. In order to get to the bottom of this additional leakage, experiments were undertaken for the purpose of a direct measurement of the fast ions leaving the magnetic trap. The losses which occurred through the end walls, and which occurred through the lateral walls were studied separately. For the purpose of measuring the quantity of ions leaving the trap through the end walls (in the direction of the magnetic fields) a sector-shaped metal electrode (1/6 of

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S/056/61/040/001/007/037
B102/B204

Escape of plasma ...

the end-wall area), to which the -20 v were applied for the purpose of preventing an impinging of plasma electrons, was used. By means of the signals emitted from the sector, the charges conveyed to the sector by ions were measured. Fig. 1 shows the lateral and front view of the electrodes, as well as the comb-like arranged 8-plate electrodes, by means of which the quantity of ions (thus only that of the fast ions) could be determined additionally and independently. From the recordings of sector electrode and comb electrodes, the following quantities of fast ions

α	1.33	1.55	2.0	2.35
$10^7 Q_{\text{sect}}$, coul.	3.3	8.7	12.8	10.8
$10^7 Q_{\text{tot}}$ coul.	46	125	200	200

and the following quantities of slow ions

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Escape of plasma ...

	1.33	1.55
$10^8 Q_{\text{sect}}$, coul.	5.5	19.0
$10^8 Q_{\text{comb}}$, coul.	2.4	7.6
$Q_{\text{slow}}/Q_{\text{fast}}$, %	~ 5	~ 15

could be found to exist. $\alpha = H_{\max}/H_0$, Q_{tot} is the total charge incidenting upon the two end walls, due to the additional escape mechanism. The quantity of fast ions incidenting upon the lateral walls (perpendicular to the H-field) was measured by means of an arrangement shown in Fig. 2. The electrodes had a size of 2.8 cm^2 and had a distance of 10 mm from the chamber wall. To the measuring electrode a -20 v was again applied. The measurements yielded the following results:

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Escape of plasma ...

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B102/B204

α	1.33	1.55	2.0	2.35	
$10^6 Q_{\text{side}}$	0.83	1.8	4.4	5.8	
$10^6 Q_{\text{tot}}$	1.9	5.3	16.3	23.2	
$q_{\text{wall}} \%$	43	34	27	25	

Q_{tot} again denotes the total charge of fast ions inciding upon the lateral walls due to the mechanism of additional losses, q_{wall} is the ratio of these charges. Thus, up to 40% of the fast ions, leaving the trap in consequence of the mechanism responsible for the additional losses, may do so through the lateral walls. Fig. 3 shows a typical oscillogram of the current from the comb electrodes (a) and from the side wall (b). The results of these studies confirm the conclusions drawn in Ref. 1 with respect to the anomalously high fast ion losses. The major part of these losses, no less than

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Escape of plasma ...

S/056/61/040/001/007/037
B102/B204

80% is due to the end walls of the trap. The escape is nonsteady, the ions are thrown out from regions not connected with one another, whose dimensions - perpendicular to the magnetic field - are small compared to the trap diameter, which, however, extend throughout the entire length of the trap along the magnetic field. There are 5 figures, 3 tables, and 2 Soviet-bloc references.

SUBMITTED: July 20, 1960

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"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1

BAYBORODOV, U. T.; IOFFE, M. S.; PETROV, V. M. and SOBOLEV, R. I.

3

Adiabatic Trapping with Combined Magnetic Fields

report presented at the Study Group on Mirror Configurations, Fontenay-aux-Roses,
France, 15-19 Jul 1963.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1"

L 10110-63 EWG(k)/ENT(1)/EEC(b)-2/ES(w)-2/RDS AFFTC/ASD/ESD-3/AFWL/
SSD Pz-4/Pab-4/Pi-4/Po-4 AT/IJP(C)
ACCESSION NR: AP3001172 S/0089/63/014/005/0443/0445

AUTHOR: Bayborodov, Yu. T.; Ioffe, M. S.; Petrov, V. M.; Sobolev, R. I.

TITLE: Adiabatic trap with combined magnetic field

SOURCE: Atomnaya energiya, v. 14, no. 5, 1963, 443-445

TOPIC TAGS: adiabatic traps, combined magnetic fields, confinement of plasma

ABSTRACT: Results are presented of experiments in plasma confinement by means of a PR-5 adiabatic trap with magnetic mirrors, in which the magnetic field grows in longitudinal and radial directions. The concept behind such a trap is that the growth of the field in a radial direction prevents the development in the plasma of convective instability, which provokes the escape of plasma across the magnetic field. Such a stabilizing field was generated by means of stabilizing windings added to the longitudinal field coils. At a sufficiently large stabilizing-field intensity, the lifetime of plasma in the trap increases considerably. The intensity of the longitudinal field in the central part of the trap and of the stabilizing field reached 5000 and 4500 oe, respectively, and the preliminary

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L 10110-63
ACCESSION NR: AP3001172

pressure in the chamber reached 1×10^{-6} mm Hg. A differential system of evacuation by means of titanium pulverized directly on the inner surface of the chamber kept the pressure in the central part of the chamber at 5×10^{-8} mm Hg with a steady admission of hydrogen at $500 \text{ cm}^3/\text{hr}$ into the plasma source. "Magnetronic" injection was used to fill the trap with plasma. In these experiments n is approximately equal to 10^9 cm^{-3} , $T_{\text{sub i}}$ is approximately equal to 5 kev, and $T_{\text{sub e}}$ is approximately equal to 20 ev. The effect of the stabilizing field on the confinement features of the trap was determined from the dependence of plasma decay time variation on the field. It was found that plasma decays 35 times slower when the field equals 1500 oe than when it equals zero. The absolute value for plasma decay during a stabilized mode was 3.5 millisec, as compared with 0.5 millisec obtained in previous experiments. This difference is associated with the different pressure of the neutral gas in the chamber and proves that the decay is due to charge exchange. The maximum decay time obtained with this device (at still lower pressure) reached 10--15 millisec. "The authors express thanks to L. A. Artsimovich for his continuing interest in the work, his contribution to its execution, and his extremely valuable discussion of the results." Orig. art. has: 3 figures.

ASSOCIATION: none
SUBMITTED: 11Apr63
SUB CODE: 19046m
Card 2/2

DATE ACQ: 21Jun63
NO REF Sov: 004

ENCL: 00
OTHER: 001

I 15125-65 EEC(b)-2/EPA(w)-2/ENG(k)/EWT(1)/EEC(t)/EPA(sp)-2/T/EWA(m)-2
PI-4/Po-4/Pz-6/Pab-10 ESD(t)/ESD(gs)/RAEM(c)/AEDC(b)/SSD/SSD(b)/AFWL/ASD(a)-5
ASD(f)-2/ASD(p)-3/AFETR/IJP(c) AT/DM S/0089/64/017/003/0211/0215
ACCESSION NR: AP4045335

AUTHOR: Marty*nenko, Yu. V.; Sobolev, R. I. B

TITLE: Magnetic field of the mirror configuration which increases along the radius

SOURCE: Atomnaya energiya, v. 17, no. 3, 1964, 211-215

TOPIC TAGS: plasma, magnetic field, nuclear fusion, thermonuclear reaction,
magnetic plasma trap, magnetic mirror

ABSTRACT: In the recent paper (Yu. V. Gott et al, Yaderny*y synthesis, Supplement, part 3, 1045 (1962)), the preliminary experiments were described on confining plasma in an adiabatic trap with a magnetic field which is increasing in both the longitudinal and in radial directions. Such a field is obtained by a superposition of the field of the usual trap with magnetic mirror by a system of linear conductors symmetrically located around the longitudinal axis. The currents in the neighboring conductors are opposite. In the present paper, a simplified combination field is considered with 4, 6, and 8 conductors. The results of

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L 15125-65
ACCESSION NR: AP4045335

the investigation were used for the computation of the establishment PR-3. The authors are grateful to M. S. Ioffe and O. B. Firsov for useful comments. Orig. art. has: 3 figures, 11 equations

ASSOCIATION: None

ENCL: 00

SUBMITTED: 02Sep63

OTHER: 002

SUB CODE: ME, EM NO REF SOV: 004

Card 2/2

L 16019-65 EWT(1)/EWS(2)/EPA(sp)-2/EPA(n)-2/EEG(t)/T/EEG(p)-2/EWA(m)-2 Pn-6/Po-4/
Pab-10/Pi-4 IJP(c)/ASD(z)-2/BSD/SSD/ASD(x)-5/AFTC(b)/AFWL/ASD(p)-3/AFETP/RAEM(a)/
ACCESSION NR: AP4049537 ESD(gs)/ESD(t) AT S/0089/64/017/005/0366/0375

AUTHOR: Ioffe, M. S.; Sobolev, R. I.

TITLE: Confinement of plasma in trap with combined magnetic field

SOURCE: Atomnaya energiya, v. 17, no. 5, 1964, 366-375

TOPIC TAGS: plasma, plasma confinement, plasma stabilization, magnetic trap, magnetic mirror machine, PR 5 machine, controlled fusion reaction, plasma stability

ABSTRACT: Proceeding from the theoretical considerations of Rosenbluth, Krall, and Rostoker (Nucl. Fusion, Suppl., Part I, 1962, p. 143), the authors investigated the properties of an adiabatic plasma trap with a magnetic field increasing in longitudinal as well as radial directions. This field configuration was realized by a special winding consisting of a system of straight current-carrying conductors parallel to the trap axis and at equal distances from each other. Preliminary information on plasma stability in such a trap was given by Yu. V. Gott, M. S. Ioffe, and V. G. Tel'kovskiy at the Salzburg Conference in 1961 (Nucl. Fusion, Suppl., Part III, 1962, p. 1045).

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L 16019-65
ACCESSION NR: AP4049537

Since then, the PR-5 machine was built and operated; this work presents a more detailed description of the machine and gives the results of experimental investigation of the problem. In the experiments, plasma density was $10^9 - 10^{10} \text{ cm}^{-3}$ and the proton energy was about 5 kev. The data obtained on the dependence of plasma containment time on the stabilizing field strength and on the pressure of the neutral gas led to the conclusion that the combined field confines and stabilizes the plasma within a certain measure of magnetohydrodynamic instability

$$\beta = \frac{nI}{H^2/8\pi} \approx 10^{-4}.$$

Under stabilized conditions, plasma containment time was extended to about 3.5 msec. Stabilization was also confirmed by the analysis of plasma oscillations during the decay process, for under stabilized conditions the decay curve was free from the density pulsations characteristic of unstabilized plasma. The maximum containment time attained was 0.06 sec at a pressure of $7 \times 10^{-9} \text{ mm Hg}$. Another series of measurements was made to investigate stability conditions within the plasma at various distances from the axis and at different field strengths of the stabilizing winding. The results show that the

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L 16019-65
ACCESSION NR: AP4049537

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stabilizing effect with rising field strength starts near the periphery; further increases in the field strength extend the stabilizing effect toward the center of the trap. The decay time tends to shorten toward the center in a stabilized plasma. The third series of measurements dealt with the density distribution of plasma along the radius of the trap, starting at a distance of 5 cm from the center line. The results revealed a pinch effect which increased toward the center of the trap with increasing stabilizing field strength. Orig. art. has 9 figures.

ASSOCIATION: none

SUBMITTED: 10Sep64

NO REF SOV: 007

ENCL: 00

OTHER: 008

SUB CODE: ME, EM

ATD PRESS: 3141

Card 3/3

L 58335-65 EWT(1)/EPF(n)-2/EWG(m)/EPA(w)-2 Pz-6/Po-4/Pab-10/Pi-4 IJP(c)

WW/AT

ACCESSION NR: AT5010440

UR/3136/64/000/545/0001/0013

56
BT/

AUTHOR: Ioffe, M. S.; Sobolev, R. I.

TITLE: Plasma containment in a trap with a combined magnetic field

SOURCE: Moscow. Institut atomnoy energii. Doklady, no. 545, 1964. Uderzhaniye plazmy v lovushke s kombinirovannym magnitnym polem, 1-13

TOPIC TAGS: plasma containment, plasma trap, magnetic mirror, plasma lifetime

ABSTRACT: The authors investigate the plasma-containment properties of an adiabatic trap with magnetic field that increases in the longitudinal and radial directions. Such a field is obtained by superposition of the ordinary mirror configuration field (the fundamental field $H_{0\parallel}$) on the field produced by a system of current-carrying conductors arranged parallel to the trap axis (stabilizing field H_1); the conductors are placed uniformly in azimuth around the side wall. The trap was filled with plasma of density 10^9 - 10^{10} cm^{-3} and proton energy $\sim 5 \text{ KeV}$ (electron energy $\sim 20 \text{ eV}$). Preliminary information on the stability of the plasma on such a combined system were reported by the authors earlier (Nuclear Fusion Suppl. part III, 1045, 1962). In this report the authors present the results of more detailed

L 58335-65
ACCESSION NR: AT5010440

investigations of the plasma behavior and a more detailed description of the apparatus. On the basis of the results obtained, it is concluded that such a combined field ensures stable plasma containment provided there is no magnetohydrodynamic instability. The stabilization of the instability is confirmed by an analysis of plasma oscillations for different values of the stabilizing field. The maximum attained containment time was 0.06 sec at pressure 7×10^{-9} mm Hg. A qualitative plot of the distribution of the plasma density along the radius of the trap is presented. Orig. art. has: 9 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: ME

NR REF Sov: 006

OTHER: 007

RR
Card 2/2

SOBOL'EV, R.N.

USSR/Geophysics - Petrography of granites

FD-778

Card 1/1 : Pub 129-15/24

Author : Sobolev. R. N.

Title : Problem of the Trondhjemites, plagiogranites and plagioclasites

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, Vol 9, No. 2, 109-11⁴, Mar 1954

Abstract : Table of the numerical characteristics of plagiogranites, and table of the mineralogic composition of plagiogranites according to various authorities. Concludes that the three named rocks are all identical, being one and the same rock.

Institution : Chair of Petrography

Submitted : July 10, 1953

Sobolev, R.N.

5-2-20/35

SUBJECT: USSR/Geology

AUTHOR: Sobolev, R.N.TITLE: Amantauskaya and Kokkuduktyubinskaya Granitoid Intrusions
(Amantauskayya i Kokkuduktyubinskaya intruzii granitoidov)PERIODICAL: Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel
Geologicheskiy, 1957, # 2, pp 153-154 (USSR)ABSTRACT: Devenian intrusions of graniteoids are widely spread in the
Sarysu-Teniz elevation (Central Kazakhstan). According to their
age they are divided into 2 complexes:

1. The first complex is more ancient. Granitoid intrusions
of the first complex penetrate porphyrites of the lower part
of the Lower-Middle Devonian layers. The Kokkuduktyubinskaya
intrusion belongs to this complex.

2. The second complex is represented by the Amantauskaya
intrusion. Granitoid intrusions of this complex penetrate all
the rocks of the Lower-Middle Devonian layers and are covered
with Lower-Turkey limestones.

Granitoids of these both complexes have different petrographic

Card 1/2

SOBOLEV, R.N.

Relations between the chemical and quantitative mineral composition
of granitoid rocks. Vest. Mosk. un. Ser. biol., pochv., geol., geog.
12 no.1:219-227 '57. (MLRA 10:11)

1. Kafedra petrografii Moskovskogo gosudarstvennogo universiteta.
(Granite)

SOBOLEV, R.N.

Kmantauskaya and Kokkuduktiubinskaya granitoid intrusions.
Biul. MOIP. otd. geol. 32 no.2:153-154 Mr-Ap '57. (MIRA 11:3)
(Kazakhstan--Rocks, Igneous)

SOBOLEV, R.N.; YEMEL'YANENKO, P.F.

Age of granitoid intrusions in the Sary-su--Tengiz upland.
Sov. geol. no.62:154-157 '57. (MIRA 11:6)

1.Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Kazakhstan--Rocks, Igneous)

SOBOLEV, R.N.

Petrochemistry of Devonian granitoids in the Sarysu-Tengiz upland
(central Kazakhstan). Nauch.dokl.vys.shkoly; geol.-geog.nauki no.2:
105-111 '58. (MIRA 12:2)

1. Moskovskiy universitet, geologicheskiy fakul'tet, kafedra petro-
grafii. (Kazakhstan--Rocks, Igneous) (Geochemistry)

SOBOLEV, R.N.

Genesis of plagioclase granites. Vest. Mosk. un. Ser. biol.,
pochv., geol., geog. 13 no.2:157-162 '58. (MIRA 11:9)

1. Moskovskiy gos. universitet, Kafedra petrografii.
(Trondhjemites)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1

SOBOLEV, R.N.

Origin of myrmekites. Vest.Mosk.un.Ser.biol.,pochv.,geol.,
geog. 13 no.4:131-136 '58. (MIRA 12:4)

1. Kafedra petrografii Moskovskogo universiteta,
(Rocks, Igneous)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1"

SOBOLEV, R.N.

Potash feldspars in Devonian granitoids in central Kazakhstan.
Sov.geol. 2 no.11:124-130 N '59. (MIRA 13:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosov.
(Kazakhstan--Feldspar)

SOBOLEV, R.N.

Geologic and petrographic features of the granitoids of the first
Devonian intrusive complex in the Sary-su-Tengiz Upland.

Izv. vys. ucheb. zav.; geol. i razv. 4 no.3:29-37 Mr '61.
(MIRA 14:6)

l. Moskovskiy gosudarstvennyy universitet imeni M.V.
Lomonosova.

(Kazakhstan—Rocks, Igneous)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1

С.А. МИХАЙЛОВ, В.Н. БОБРОВ

Geological and petrographical characteristics of contact
formations of the Kiiik Massif. Vest. Mosk. un. Ser. 4:
Geol. 19 no. 5:29-36. S-0'63. (MIRA 17;2)

I. Kafedra petrografii Moskovskogo universiteta.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1"

KABANOV, Iu.P., BUBOLEV, E.N.

Manifestation of Lower Carboniferous igneous activity in
the eastern part of the Sarysu-Tengiz watershed (central
Kazakhstan). Izv. vys. ucheb. zav.; geol. i razv. 6
no.9:139-140 S '63. (MIRA 17:10)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

SOBOLEV, R.N.

Some characteristics of the processes of hybridism and differentiation in the Topar intrusive. Izv. vys. ucheb. zav.;
geol. i razv. 6 no.12:66-74 D '63 (MIRA 18:2)

1. Moskovskiy gosudarstvennyy universitet.

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1

SOBOLEV, R.N.

Origin of the diamellites of the Kokkudztyube Massif. Dokl. AN SSSR
160 no.4:921-922 F '65.
(MIRA 18:2)

to. Moskovskiy gosudarstvennyy universitet. Submitted April 6, 1964.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1"

SOBOLEV, R.N.; DOROKHOV, I.L.; BORSHCHEVSKIY, Yu.A.

New data on the age of the granitoids of the Topar complex in
the northern part of the Dzhungaria-Balkhash geosyncline.
Dokl. AN SSSR 165 no.3:676-677 N '65. (MIRA 18:11)

1. Submitted May 29, 1965.

DOROKHOV, I.I.; MIGDISOVA, L.F.; SOBOLEV, R.N.

Geological position and age of intrusives of the Izhaksytagalinsk complex in the northeastern part of the Terau synclinorium. Biul. MOIP Otd. geol. 40 no. 6:143-144 N-D '65 (MIRA 19:1)

1. Submitted May 13, 1965.

S/539/61/000/032/009/017
D247/D301

AUTHORS: Kruglikov, S.S., Kudryavtsev, N.T. and Sobolev, R.P.
TITLE: Investigating electrolytes for smooth nickel plating
PERIODICAL: Moscow. Khimiko-tehnologicheskiy institut. Trudy, no. 32,
1961. Issledovaniya v oblasti elektrokhimii, 259-265

TEXT: The authors mention the development of additives for smooth electroplating which has taken place in the USA and concludes that the composition of the nickel electrolyte given, used with the addition of 0.5 g/l of coumarin at a pH of 4-6 and a current density of 4-6 amp/dm² at 50 ± 2°C with mechanical stirring provides good conditions for a semi-lustrous smooth nickel plate. The influence of the various electrolyte conditions has also been studied using a quantitative measurement of the smoothing capacity. There are 7 figures and 4 non-Soviet-bloc references. The 4 most recent references to the English-language publications read as follows: W.R. Meyer, Proc. Am. Electropol. Soc., 24, 123 (1936); D.G. Foulke and O. Kardos, Proc. Am. Electropol. Soc., 43, 172, 181, (1956);

Card 1/2

Sov. Philos. Conf., A.

10(9)
INFO/P:
TITLE:

Notes Given
207753-6-40-12
All-Union Conference on Philosophic Problems of Modern Natural Science (Vsesoyuznaya nauchno-issledovatel'skaya konferentsiya po filosoficheskym voprosam nauchnykh doktrin) By the Editor (Ot redaktsii)

PERICLALS:

Periodicals: Uspishi filosoficheskikh nauk, 1959, Vol. 68, No. 4, pp. 717-717 (S.S.R.)
The above conference took place at Moscow in October 1958. It was attended by more than 600 scientists, among them 20 Academicians and 70 Corresponding Members, 43 USSR, as well as delegations from Bulgaria, Hungary, East Germany, and Czechoslovakia. The following lectures delivered at the conference are listed: Academician M.-B. Melnik (on Lenin's book "Materialism and Empirio-criticism"), Academician N. S. Semenov (on the Philosophy of the USSR), Academician V. I. Lenin and the Philosophical Problems of Modern Criticism*, Doctor of Philosophical Sciences A. M. Reutov ("On the Relationship of the Forms of Motion of Matter in Nature"), Academician V. A. Fok (Interpretation of Quantum Mechanics - already Published in Uspishi fizicheskikh nauk, 1957, Vol. 62, No. 4), Corresponding Member AS USSR A. D. Aleksandrov ("The Philosophical Content of and the

Card 1/3

Significance of the Theory of Relativity"), Academician V. A. Ambartsumyan ("Some Methodological Problems of Cosmology"), Academician S. L. Sobolev and Professor A. A. Vaynshteyn ("Experimental Physics and Chemistry", Corresponding Member AS USSR G. M. Panfilov and Academician V. A. Fizei, short ("On the Part Played by Physics and Chemistry in the Investigation of Biological Problems"), Academician A. I. Oparin ("The Problem of the Origin of Life in the Light Of the Progress Made by Modern Natural Science"), and finally, Corresponding Member AS USSR M. I. Granichenko ("Lenin's Theory of Sertification"). 20 delegates took part in the discussion of these lectures. Next, the introductory speech delivered by the President of the AS USSR, Academician A. N. Gerasimov, was reproduced, so is the closing speech by Corresponding Member AS USSR P. K. Fedoseyev, and finally, resolution passed by the All-Union Conference on philosophical problems of modern natural science in session under the title "On the Tasks of dealing with Philosophical Problems of Natural Sciences". The resolution essentially contains an appeal for the

Card 2/3

Investigation of all new scientific facts in the sense of the theory of Marx and Lenin and of dialectic materialism for adaptation of ideas to the resolution of the 20th Party Congress, cooperation of institutes, coordination of research work, as well as some problems of organization. In conclusion, a list of printed work is given, in which the lectures delivered during the conference were published. There are 8 Soviet references.

Card 3/3

SOBOLEV, Sergey Aleksandrovich; DENISENKO, L., redaktor; GOLOVCHENKO, G.,
tekhnichniy redaktor

[Aleksandr Fedorovich Mozhaiskii in the Ukraine] Oleksandr Fedo-
rovych Mozhaiskii na Ukrayini. Kyiv, Derzh. vyd-vo tekhn. lit-ry
URSR, 1956. 43 p.
(MIRA 10:4)
(Mozhaiskii, Aleksandr Fedorovich, 1825-1890)

See also

KRICHEVSKIY, Yevgeniy Samoylovich; FEDOROVICH, Leonid Grigor'yevich; FETISOV,
Vladimir Fedorovich; VERTSNER, V.N., kand. fiz.-mat. nauk, retsenzent;
KRUGER, M.Ya., inzh., retsenzent; SHOSHIN, I.A., inzh., retsenzent;
SOBOLEV, S.P., inzh., retsenzent; DULIN, V.N., kand. tekhn. nauk,
red.; BOGOMOLOVA, M.F., red. izd-va; PUKHLIKOVА, N.A., tekhn. red.

[Electrical equipment in optical and mechanical instruments] Elektro-
oborudovanie optiko-mekhanicheskikh priborov. Moskva, Gos. izd-vo
obor. promyshl., 1958. 467 p. (MIRA 11:?)

(Electronic apparatus and appliances)

(Electric apparatus and appliances)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1

LYAKHOVICH, V.V.; ZOLOTAREV, B.P.; RODIONOV, D.A.; SOBOLEV, S.F.

Accessory minerals in granitoids of the Gornyy Altai. Trudy
Inst.min., geokhim.i kristalokhim.red.elem. no.2:144-163 '59.
(MIRA 15:4)
(Altai Mountains--Trace elements)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1"

31

MESSAGE I BOOK INFORMATION

SC7/5740

Akademika nauk SSSR. Institut mineralogii, geohimii i kristallokhimii redkikh
elementov

Voprosy mineralogii, geohimii i geneticheskoi mestorezchenii redkikh elementov
(Problems in Mineralogy, Geochemistry, and Deposit Formation of Rare Elements)
Moscow, Izd-vo AN SSSR, 1980. 253 p. (Series: Itc: Trudy, vyp. 4) Errata
printed on the inside of back cover. 2,200 copies printed.

Chief Ed.: K. A. Vlasov, Corresponding Member, Academy of Sciences USSR;
Resp. Ed.: V. V. Lyshevich; Ed. of Publishing House: L. S. Tarasov;
Tech. Ed.: P. S. Kuchina.

PURPOSE: This book is intended for geologists, mineralogists, and petrographers.

CONTENTS: This is a collection of 25 articles on the formation, geochemistry,
mineralogy, petrography, and geochemistry of deposits of rare elements in
Siberia and [Soviet] Central Asia. The distribution and characteristics of
rare elements found in these areas as well as some quantitative and qualitative
methods of investigating the rocks and minerals in which they are found,

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31

Problems in Mineralogy (Cont.)

SUV/5740

or with which they are associated, are discussed. Two articles present an economic investigation of the possibilities of industrial extraction and utilization of selenium, tellurium, and hafnium. No personalities are mentioned. Each article is accompanied by references.

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Card 2/6

31

S07/5740

Problems in Mineralogy (Cont.)

MINERALOGY AND PETROGRAPHY

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Zhabin, A. G. On the Separation Time of the Minerals Niobium, Zirconium, and the Rare Earths in the Granite Pegmatite of the Plyumovskaya Mine 74

Semenov, Ye. I. Gelzirconium in Alkaline Pegmatites 85

Korkin, V. I., Yu. A. Pyatenko, and A. V. Bykova. On Britholite of the Alkaline Rocks of Southwestern Tuva 90

Card 3/6

31

Problems in Mineralogy (Cont.)

CC7/5730

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Card 4/6

31

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Card 5/6

SOBOLEV, S.F.

Methods for the separation of accessory minerals from
melanocratic igneous rocks. Trudy IMGRE no.18:159-164 '63.
(MIRA 16:12)

SOBOLEV, Sergey Fedorovich; LEKHDEV, A.P., doktor geol.-miner.
nauk, ctv. red.; LYAKHOVICH, V.V., red. PARSHIK A.M.,
red.

[Gabbro-tonalite complex of the Polar Urals; materials
on the study of accessory minerals and rare elements]
Gabbro-tonalitovyj kompleks Poliarnogo Urala; po mate-
rialem izuchenija aktsessornykh mineralov i redkikh
elementov. Moskva, Nauka, 1965. 161 p. (MIRA 12:9)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1

SUBOLIN, L.P.

Rare-earth elements in the ultrabasic and basic rocks of the
Urals. Geokhimia no.41:433-442 Ap '78.
(MIRA 18:7)
I. Institut mineralogii, neokhimii i kristallichimii redkikh
elementov, Moskva.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651820016-1"

SOBOL'EV, S. I.

USSR/Miscellaneous---machine construction

Card 1/1

Authors : Sobolev, S. I.; and Petukhov, N. E., engineers

Title : Electrical rivet welding

Periodical : Vest. mash. 34/3, 66-69, Mar/1954

Abstract : Electric-arc rivet welding under flux is being used more and more. The technology of rivet welding is expounded and the quality of the seams made in this manner are considered when low-alloy sheet steel 2-4 mm thick is used. In contrast to contact spot welding there is no limit to the dimensions of articles produced in this manner and it is possible to make box-like structures. The method is less costly. There are defects, such as failure of all the metal to fuse, but by proper techniques these can be eliminated. Tables; drawings.

Institution :

Submitted :

SKERSKIY, K.K.; SOBOLEV, S.K.; SHAPIRO, V.V.

Simple converter of voltage to pulse frequency. Priborostroenie
no.11:26-28 N^o 62.
(MIRA 15:12)
(Electronic calculating machines)

KARNAUKHOV, V.V.; SOBOLEV, S.K., kand.tekhn.nauk; GUL'YEV, G.I.;
KOZIN, G.N.; KRIVCHENKO, Yu.S.

Automation of the determination of the stopping moment of
blowing in an oxygen-blown converter. Met.i gornorud. prom.no. 2:
26-28 Mr-Ap '64.
(MIRA 17:9)

SOGOLEV, S. K.: Master Tech Sci (diss) --- "Desulfurization of cast iron within the blast furnace by a suspension of lime and aluminum in gas". Moscow, 1958.
13 pp (Min Higher Educ USSR, Moscow Order of Labor Red Banner Inst of Steel im I. V. Stalin), 120 copies (KL, No 2, 1959, 122)

AUTHORS:

Sobolev, S. K., Oyks, G. N.

SOV/163-59-2-9/46

TITLE:

Desulfurization of Cast Iron by Means of Lime (Desul'furatsiya
chuguna izvest'yu)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, № 2,
pp. 59-65 (USSR)

ABSTRACT:

Experiments for the desulfurization of cast iron by means of lime are described. Lime was blown in by means of a nitrogen current as carrier; the factors causing the optimum conditions in this process are discussed. Cast iron of different chemical composition was investigated. Finely ground lime was used as desulfurization agent. The best results were achieved with lime of a granular size of 0,16 mm. The method of blowing in pulverulent lime and aluminum with nitrogen carrier gas into molten cast iron is well suited for desulfurization. At a lime content of 1,5-3% and an aluminum content of 0,12% in the cast iron the consumption of nitrogen is 1 liter per 1 kg of cast iron. The desulfurization amounts to 70-90%. When the aluminum content in the cast iron mixture is increased the desulfurization degree increases, too. An increase of the intensity of blowing-in (more than 1,2 l/min. per 1 kg cast iron) does not affect the de-

Card 1/2

Desulfurization of Cast Iron by Means of Lime

SOV/163-58-2-9/46

sulfurization process. This way cast iron with a sulfur content of 0,02-0,22% was obtained. There are 5 figures, 3 tables, and 5 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: November 20, 1957

Card 2/2

SOBOLEV, S.K., inzh.; KUDRIN, V.A., kand.tekhn.nauk; OYKS, G.N.,
doktor tekhn.nauk; TRUBIN, K.G., doktor tekhn.nauk, V rabote
prinimali uchastiye; BLIZNTUKOV, S.A.; ROZHKOV, I.M.;
MALYSHEV, V.S.

Desulfuration of pig iron outside the blast furnace by lime
with the addition of aluminum powder. Sbor.Inst.stali
no.39:5-15 '60. (MIRA 13:7)

1. Kafedra metallurgii stali Moskovskogo ordena Trudovogo
Krasnogo Znameni instituta stali im. I.V.Stalina.
(Cast iron-Metallurgy) (Desulfuration)

PHASE I BOOK EXPLOITATION

SOV/5556

81-

Moscow. Institut stali.

Novoye v teorii i praktike proizvodstva martenovskoy stali (New [Developments] in the Theory and Practice of Open-Hearth Steelmaking) Moscow, Metallurgizdat, 1961. 439 p. (Series: Trudy Mezhvuzovskogo nauchnogo soveshchaniya) 2,150 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR. Moskovskiy institut stali imeni I. V. Stalina.

Eds.: M. A. Glinkov, Professor, Doctor of Technical Sciences, V. V. Kondakov, Professor, Doctor of Technical Sciences, V. A. Kudrin, Docent, Candidate of Technical Sciences, G. N. Oyks, Professor, Doctor of Technical Sciences, and V. I. Yavovskiy, Professor, Doctor of Technical Sciences; Ed.: Ye. A. Borko; Ed. of Publishing House: N. D. Gromov; Tech. Ed.: A. I. Karasev.

PURPOSE: This collection of articles is intended for members of scientific institutions, faculty members of schools of higher education, engineers concerned with metallurgical processes and physical chemistry, and students specializing in these fields.

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New [Developments] in the Theory (Cont.)

SOV/5556

and M.I. Beylinov (Night School of the Dneprodzerzhinsk Metallurgical Institute).
References follow some of the articles. There are 268 references, mostly Soviet.

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Yavovskiy, V. I. [Moskovskiy institut stali - Moscow Steel Institute].
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Manufacturing

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CIA-RDP86-00513R001651820016-1

KARNAUKHOV, V.V.; SOBOLEV, S.K.

Controlling the carbon content in the oxygen-blown converter process.
Stal' 24 no.7:597-599 Jl '64. (MIRA 18:1)

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CIA-RDP86-00513R001651820016-1

KARNAUKHOV, V.V.; SOBOLEV, S.R.

Device for measuring the height of the flame above the converter.
Priborostroenie no.9; 31-32 S '64. (MIRA 17:11)

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